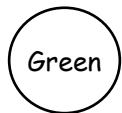


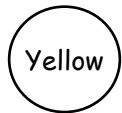
# Year 2 Topics for NC Mathematics

How to use this booklet

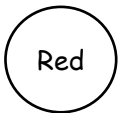
Work through the booklet and colour in the circle after each topic with traffic light colours like this:



I really understand this



I need to practise more to get the idea



I don't really understand and need help

Doing this will help you to get a better idea of the things that you need to learn.

***There is a lot of challenging material in the Year 2 Programme and parents and/or teachers will need to read and talk their children through this booklet.***

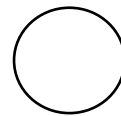
## Terms and Conditions:

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The booklet is intended as a support material for the Key Stage 1 maths and is not a comprehensive pedagogy of all the maths topics that may be set on the Key Stage 1 maths test.

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Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward



For each line, write numbers in the blank boxes so that the number pattern stays the same for the line of numbers.

2	4	6	8				
---	---	---	---	--	--	--	--

3	6	9	12				
---	---	---	----	--	--	--	--

24	22	20	18				
----	----	----	----	--	--	--	--

24	21	18	15				
----	----	----	----	--	--	--	--

5	10	15	20				
---	----	----	----	--	--	--	--

50	45	40	35				
----	----	----	----	--	--	--	--

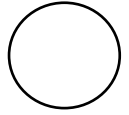
10	20	30	40				
----	----	----	----	--	--	--	--

12	22	32	42				
----	----	----	----	--	--	--	--

77	67	57	47				
----	----	----	----	--	--	--	--

93	83		63		43		
----	----	--	----	--	----	--	--

Recognise the place value of each digit in a two-digit number (10s, 1s)



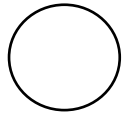
1. Is it true that 9 must be bigger than 30 because 9 is a bigger number than 3? Give a reason for your answer.

Write your answer and the reason for your answer here

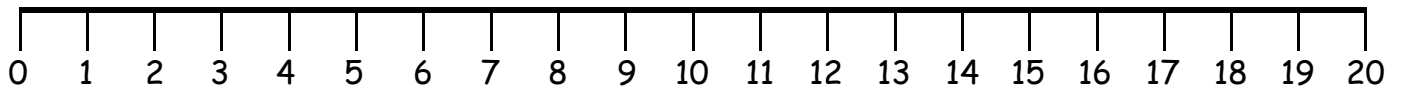
2. Why is this working out for the sum  $23 + 5$  bound to be give the wrong answer?

$$\begin{array}{r} 23 \\ + 5 \\ \hline 73 \\ \hline \end{array}$$

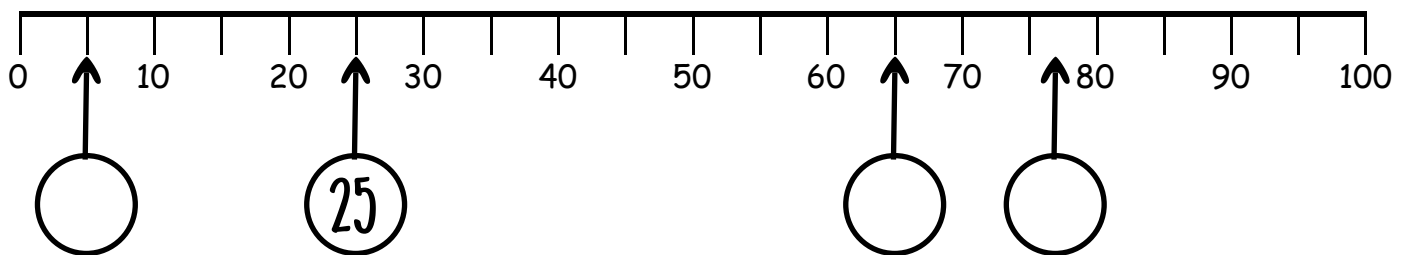
Identify, represent and estimate numbers using different representations, including the number line



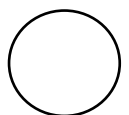
1. Here is a number line showing the numbers 0 to 20. On this line, put a circle around all the odd numbers that are bigger than 9 but smaller than 19.



2. Here is another number line showing the numbers 0 to 100. Write the most likely whole number in each of the circles that the arrow points to on the line. One has been done for you.



Compare and order numbers from 0 up to 100; use  $<$ ,  $>$  and  $=$  signs



1. Write these numbers into the rank order smallest to largest:

6, 12, 90, 89, 72, 51, 49, 11, 27

2. Write a < or > or = in each of the boxes so that the sum is correct. The first one has been done for you.

$10 + 2 \boxed{>} 11$

$2 + 3 \boxed{\phantom{>}} 4$

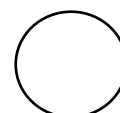
$7 + 2 \boxed{\phantom{>}} 12$

$4 + 5 \boxed{\phantom{>}} 9$

$8 - 3 \boxed{\phantom{>}} 6$

$15 - 4 \boxed{\phantom{>}} 9$

Read and write numbers to at least 100 in numerals and in words



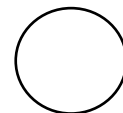
Using the numbers and words below, complete the two tables

90   Sixty four   Seventeen   72   Eighty seven  
 Sixteen   11   Seventy five   21   Fifty three  
 23   Eighty one   57   Twenty nine   99   30

Number	Name
	Eleven
	Ninety
	Seventy two
53	
81	
29	
17	
	Twenty one

Number	Name
75	
64	
16	
	Thirty
	Fifty seven
	Twenty three
	Ninety nine
87	

Use place value and number facts to solve problems



1. Put a tick or a cross against each of the following number statements to show if they are true or false.

$12 = 10 + 2$

$23 = 20 + 3$

$17 = 70 + 1$

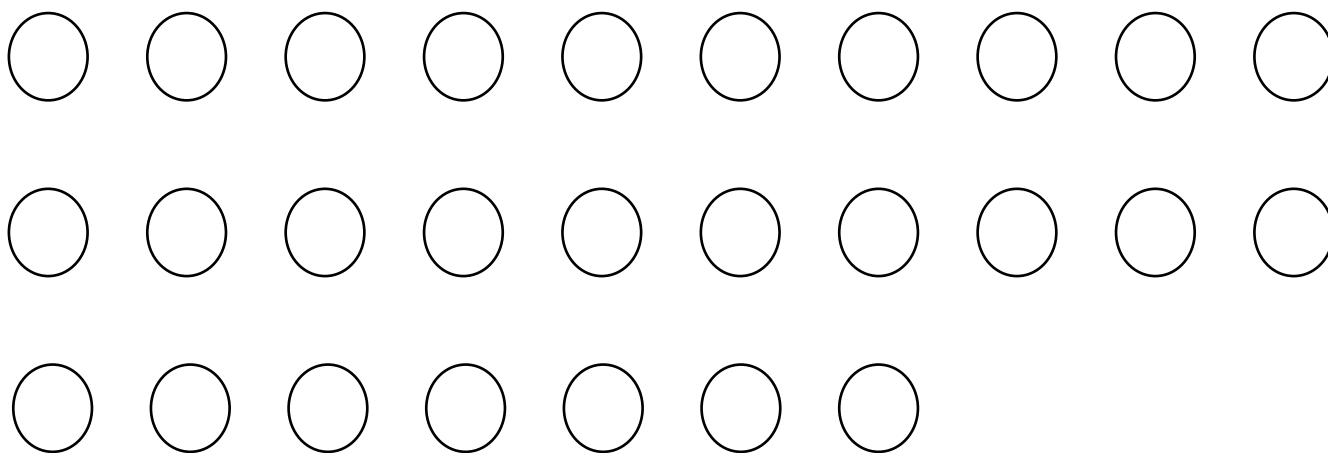
$14 = 4 + 10$

$10 + 12 = 20 + 2$

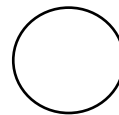
$10 + 12 = 30 + 1$

2. Here are 27 beads. Using two different colours, shade in the number of beads represented by the 2 and 7 digits.

27



Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100



1. Fill in the missing number in each of these addition sums:

$1 + \square = 20$

$5 + \square = 20$

$7 + \square = 20$

$2 + \square = 20$

$3 + \square = 20$

$9 + \square = 20$

$6 + \square = 20$

$4 + \square = 20$

$8 + \square = 20$

$18 + \square = 20$

$12 + \square = 20$

$10 + \square = 20$

$17 + \square = 20$

$15 + \square = 20$

$13 + \square = 20$

$11 + \square = 20$

$19 + \square = 20$

$14 + \square = 20$

$16 + \square = 20$

2. Fill in the missing number in each of these take away sums:

$20 - \square = 19$

$20 - \square = 15$

$20 - \square = 18$

$20 - \square = 17$

$20 - \square = 12$

$20 - \square = 16$

$20 - \square = 11$

$20 - \square = 13$

$20 - \square = 14$

Continued

$20 - \square = 10$

$20 - \square = 1$

$20 - \square = 5$

$20 - \square = 8$

$20 - \square = 3$

$20 - \square = 9$

$20 - \square = 2$

$20 - \square = 6$

$20 - \square = 4$

$20 - \square = 7$

3. Use the number facts to help write the correct answers in the box.

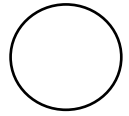
Number facts
$3 + 2 = 5$
$7 + 3 = 10$
$8 - 2 = 6$
$10 - 3 = 7$

Write the correct number in the box
$30 + 20 = \square$
$70 + 30 = \square$
$80 - 20 = \square$
$100 - 30 = \square$

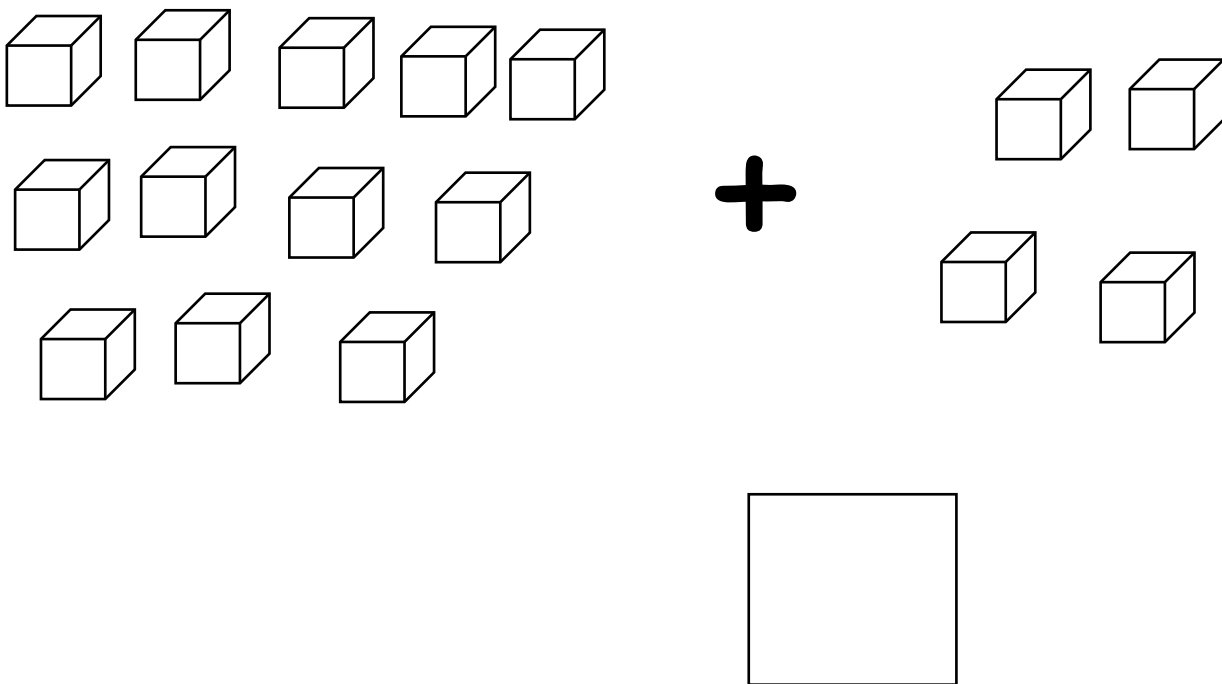


Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- a two-digit number and 1s
- a two-digit number and 10s
- 2 two-digit numbers
- adding 3 one-digit numbers



1. How many blocks will there be if a group of 4 blocks is added to a group of 16 blocks?



2. Write the answers for these sums into the boxes.

$15 + 3 =$

$21 + 4 =$

$35 + 2 =$

$27 + 3 =$

Continued

3. Write the answers for these sums into the boxes.

$12 + 10 = \square$

$15 + 10 = \square$

$37 + 10 = \square$

$14 + 20 = \square$

$27 + 30 = \square$

$42 + 40 = \square$

4. Work out the answers to these sums.

$$\begin{array}{r} 12 \\ + 14 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ + 33 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ + 36 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 77 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 13 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 26 \\ + 14 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ + 15 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ + 47 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ + 26 \\ \hline \\ \hline \end{array}$$

Continued

5. Workout the answers to these sums.

$$2 + 1 + 5 = \square$$

$$3 + 6 + 9 = \square$$

$$8 + 2 + 7 = \square$$

$$8 + 9 + 7 = \square$$

6. Workout the answers to these sums.

$$\begin{array}{r} 5 \\ 5 \\ + 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ 2 \\ + 6 \\ \hline \\ \hline \end{array}$$

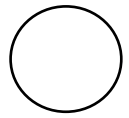
$$\begin{array}{r} 8 \\ 3 \\ + 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ 2 \\ + 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ 4 \\ + 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ 8 \\ + 9 \\ \hline \\ \hline \end{array}$$

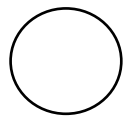
Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot



Use the words - *take, not, add, same, get* - complete the explanation of the difference between addition and subtraction in the box below.

The order in which an          up sum is done does          matter. You get the          answer from  $3 + 2$  and  $2 + 3$ . But this is not the case with          away sums. You do not the same answers from  $3 - 2$  and  $2 - 3$ .

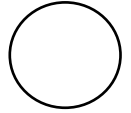
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems



Show how an add up sum could be used to make sure that this is the right answer

$$23 - 15 = 8$$

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers



1. Write the answer to each of these in the box provided. The first one has been done for you to give you the idea.

3 times 2 is

7 times 2 is

4 times 10 is

8 times 10 is

3 times 5 is

8 times 5 is

6 times 5 is

7 times 5 is

2. Write the answer to each of these in the box provided. The first one has been done for you to give you the idea.

6 divided by 2 is  20 divided by 5 is

8 divided by 2 is  14 divided by 2 is

15 divided by 5 is  18 divided by 2 is

60 divided by 10 is  40 divided by 5 is

3. Use the correct words *odd* or *even* to fill in the missing spaces:

Numbers like 3, 7, 11 and 15 are called \_\_\_\_\_ numbers.

Numbers like 2, 6, 10 and 18 are called \_\_\_\_\_ numbers.

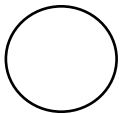
If you times a number by 2, the answer is always \_\_\_\_\_

If you times an odd number by 5, the answer is always \_\_\_\_\_

If you times an even number by 5, the answer is always \_\_\_\_\_

If you times a number by 10, the answer is always \_\_\_\_\_

Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs



1. Write in the answer for each of these multiplication. You will probably need a set of multiplication tables to help find the answers

$$5 \times 2 =$$

$$2 \times 6 =$$

$$3 \times 4 =$$

$$4 \times 5 =$$

$$2 \times 6 =$$

$$6 \times 5 =$$

$$5 \times 10 =$$

$$7 \times 3 =$$

$$4 \times 5 =$$

$$8 \times 4 =$$

2. Write in the answer for each of these multiplication.  
You will probably need a set of multiplication tables to help find the answers

$$8 \div 2 =$$

$$35 \div 5 =$$

$$6 \div 3 =$$

$$30 \div 6 =$$

$$16 \div 4 =$$

$$42 \div 7 =$$

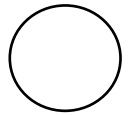
$$15 \div 5 =$$

$$72 \div 8 =$$

$$24 \div 6 =$$

$$54 \div 9 =$$

Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot



Here are three times sums with their answers:

$$3 \times 2 = 6$$

$$4 \times 10 = 40$$

$$4 \times 5 = 20$$

Without doing any working out use the answers to complete these three times sums:

$$2 \times 3 =$$

$$10 \times 4 =$$

$$5 \times 4 =$$

Here are three divide sums with their answers:

$$6 \div 2 = 3$$

$$10 \div 5 = 2$$

$$30 \div 5 = 3$$

Explain why you cannot use these answers in the same way as the times to write in the answers to these divide sums:

$$2 \div 6 =$$

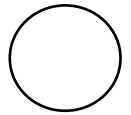
$$5 \div 10 = 2$$

$$5 \div 30 =$$

You cannot do the divides the same as the times because



Recognise, find, name and write fractions of a length, shape, set of objects or quantity



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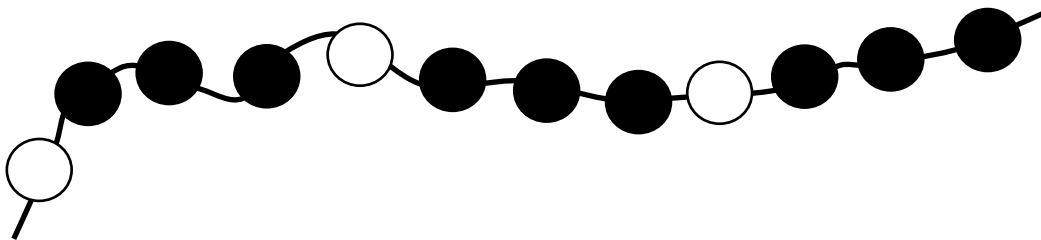
1. If the longer line is twice as long as the shorter line. Put a tick against the word which describes the shorter line's length as a fraction of the longer line's length.

Quarter

Half

Third

2. Put a tick against the word which describes the fraction of white beads on this string of beads.



Quarter

Half

Third

3. Put a tick against the word which describes the fraction of this shape which is shaded black.

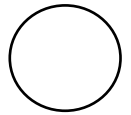


Quarter

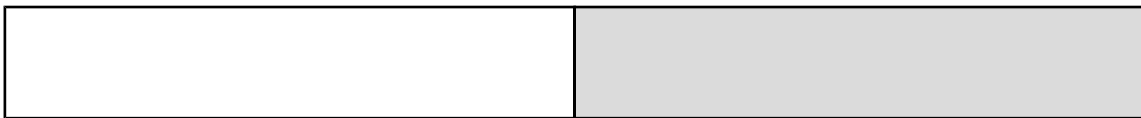
Half

Third

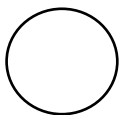
Write simple fractions



1. Using numbers, write the fraction of each of these shapes that has been shaded in grey.



Compare and order values using  $>$ ,  $<$  and  $=$



Write into the box provided a  $<$ ,  $>$  or  $=$  so that each of these are correct. The first one has been done for you to give you the idea

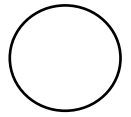
$$2 + 1 \quad \boxed{<} \quad 4$$

$$3 + 1 \quad \boxed{\phantom{<}} \quad 4$$

$$3 + 2 \quad \boxed{\phantom{<}} \quad 4$$

$$3 + 1 \quad \boxed{\phantom{<}} \quad 5$$

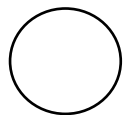
Recognise and use symbols for pounds (£) and pence (p)



Use the correct numbers and symbols to write out this amount

Five pound and 23 pence

Find different combinations of coins that equal the same amounts of money



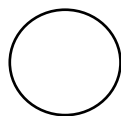
Using 1p, 2p and 5p coins, write down the different ways in which a value of 10p could be made. Three of the ways has been done for you. Try to find two other ways.

$$1p + 1p + 1p + 1p + 1p + 1p + 1p + 1p + 1p + 1p = 10p$$

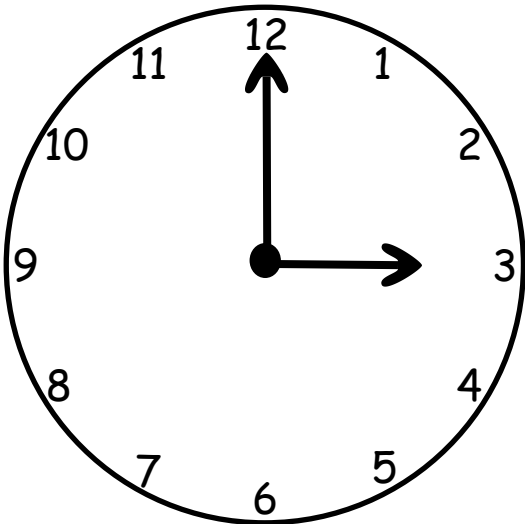
$$1p + 1p + 1p + 1p + 1p + 1p + 1p + 1p + 2p = 10p$$

$$2p + 2p + 1p + 5p = 10p$$

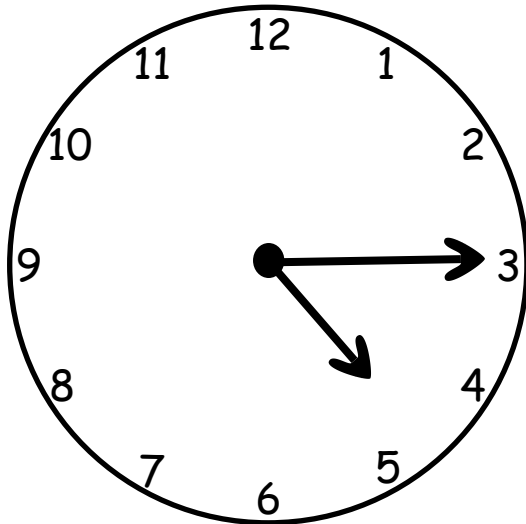
Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times



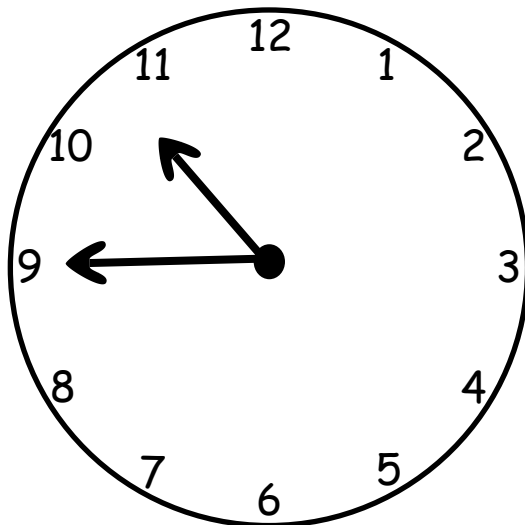
Under each of these clock faces write in the correct time



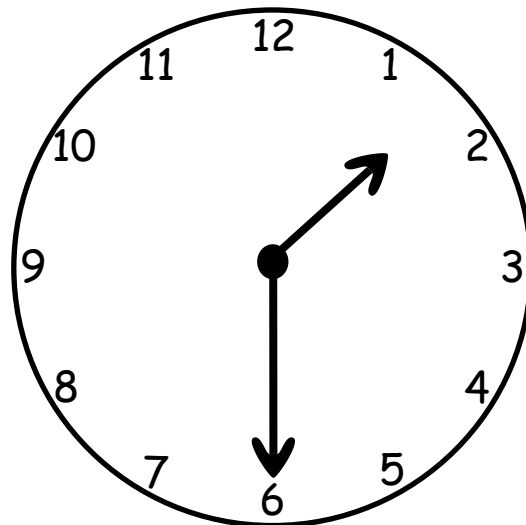
\_\_\_\_\_



\_\_\_\_\_

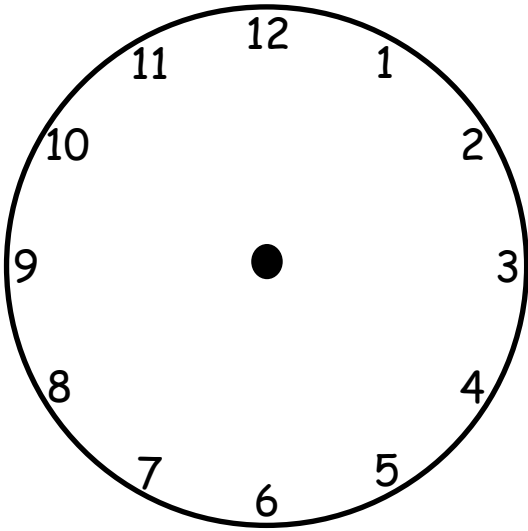


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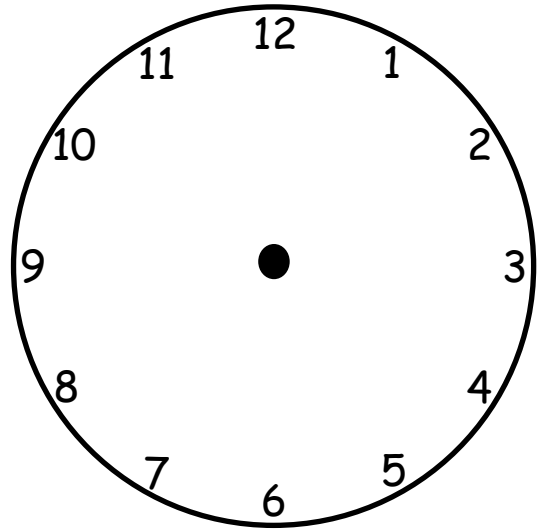


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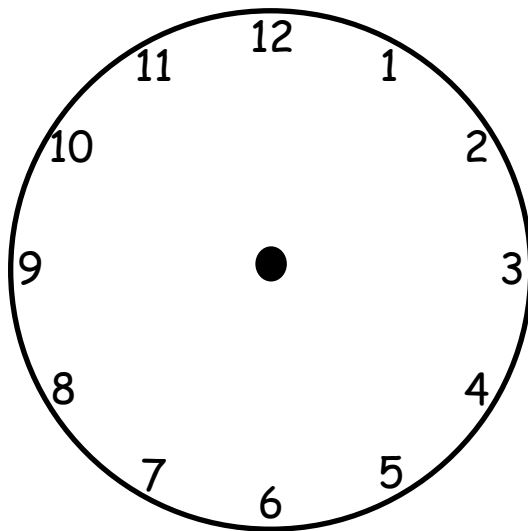
Draw fingers on each of the clock faces so that it shows the time written below the clock



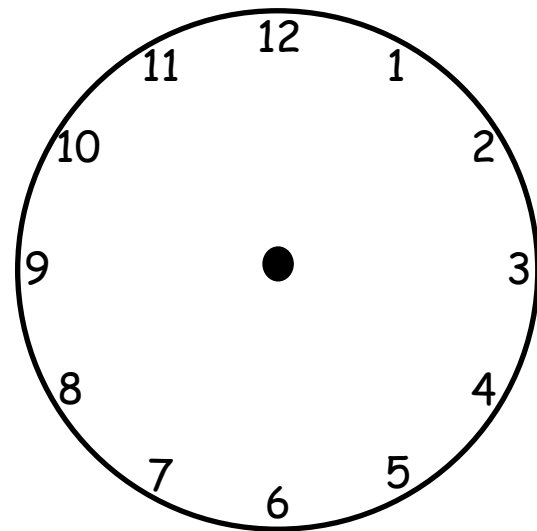
Five past four



Ten past nine

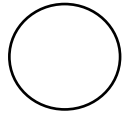


Five to three

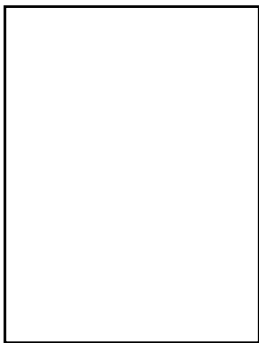


Ten to one

Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line



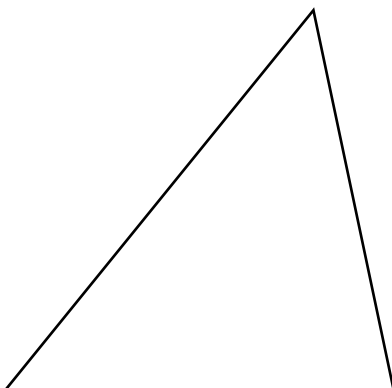
1. Use the words - **triangle**, **four**, **equal**, **square**, **three**, **rectangle** - to fill in the missing words for the description of each of the following shapes



This shape is called a \_\_\_\_\_  
and it has \_\_\_\_ sides

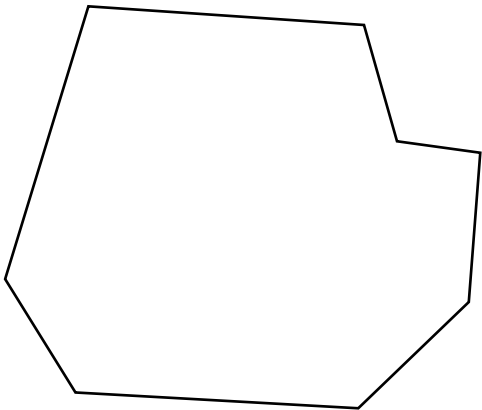
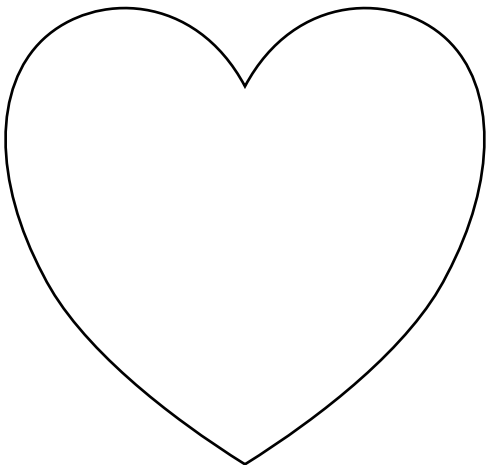
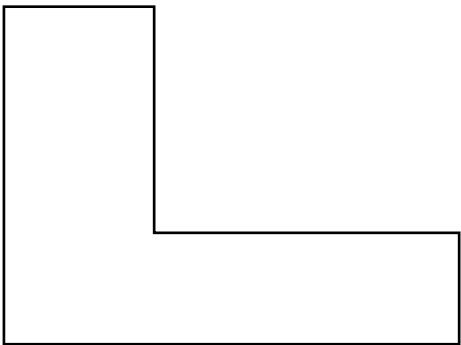
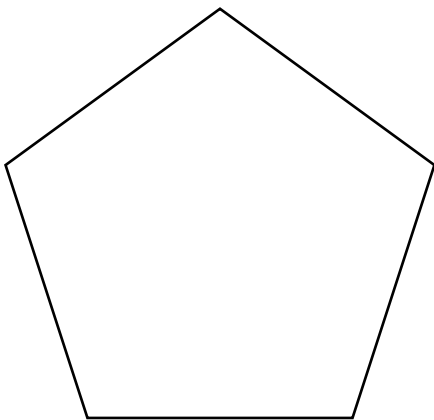
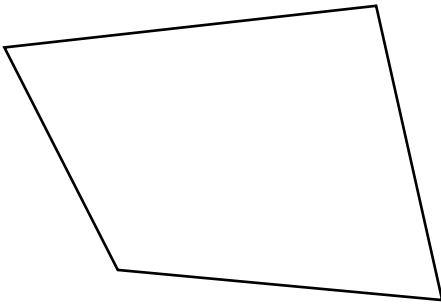
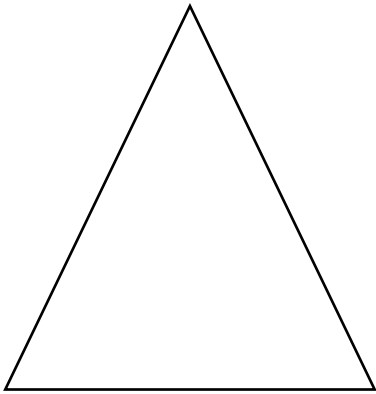


This shape is called a \_\_\_\_\_  
and it has four sides of \_\_\_\_\_  
length

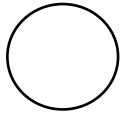


This shape is called a \_\_\_\_\_  
and it has \_\_\_\_ sides

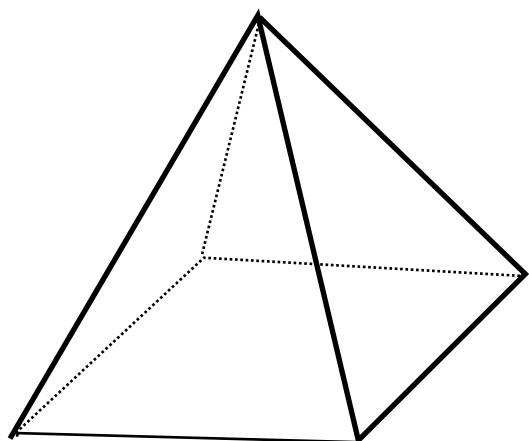
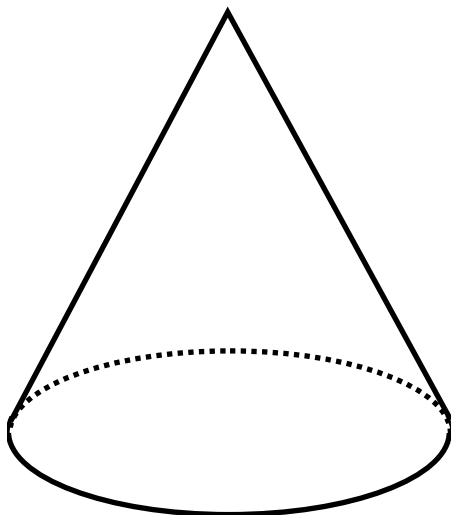
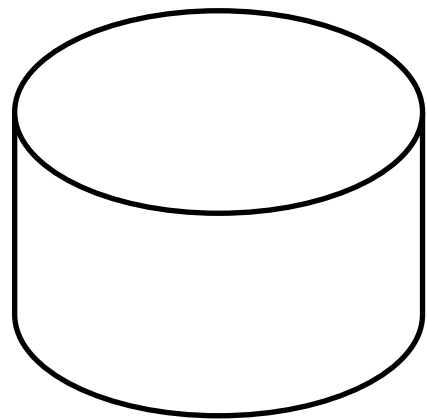
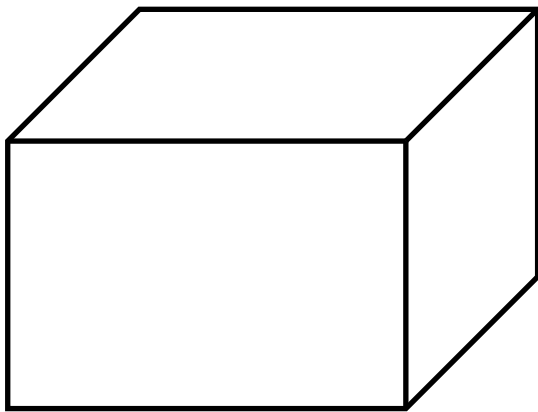
2. Put a tick against the shapes below that have a line of vertical symmetry.



Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

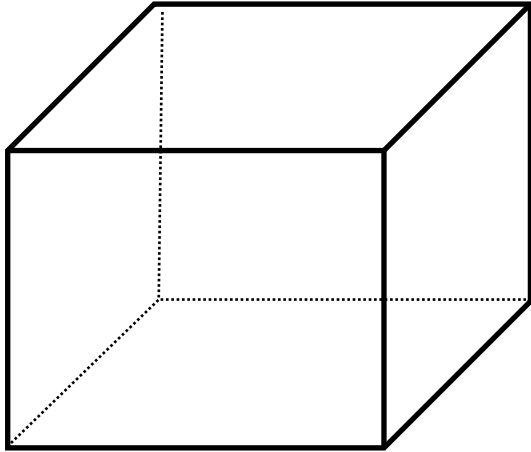


1. Put the correct name - **pyramid**, **cylinder**, **cuboid**, **cone** - under each of these shapes .



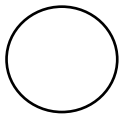


2. Complete the table to show the correct number of edges, faces, and vertices on a cube. The picture of a cube may help you to do this.



Edges	
Faces	
Vertices	

Order and arrange combinations of mathematical objects in patterns and sequences



1. Draw in the most likely next four shapes for this sequence of triangles and circles.



2. Draw in the most likely next three shapes for this sequence of squares and shields.

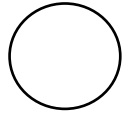




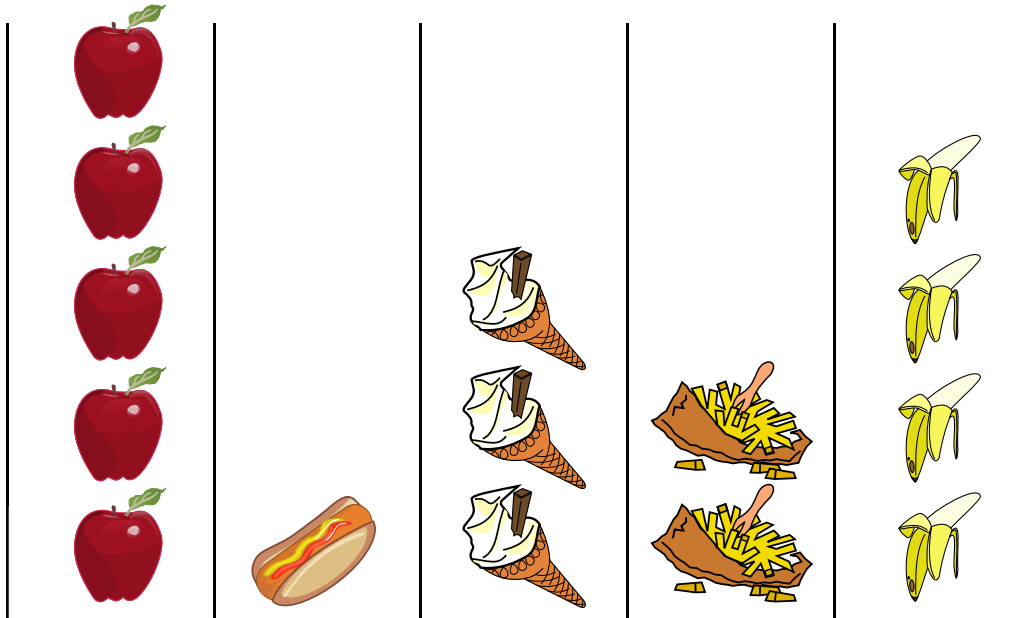
Interpret and construct simple pictograms, tally charts, block diagrams and tables

Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

Ask-and-answer questions about finding totals and comparing categorical data



By shading in columns to the correct height, use the grid at the bottom of the page to show the information on the pictogram




Apples

Bananas

Chips

Hot  
Dogs

Ice  
Creams